

## HOMEWORK

**Objective:** Students will be able to solve the unknown variable in proportions.

$$\frac{A}{B} = \frac{C}{D}$$

When the **variable** is in the numerator we must use cross multiplication.

$$\frac{\cancel{A}}{\cancel{B}} = \frac{\cancel{C}}{\cancel{D}} \longrightarrow A \cdot D = B \cdot C$$

$$\frac{-3}{x} = \frac{2}{8}$$

**Original Proportion**

$$-3 \cdot 8 = 2 \cdot x$$

**Result of Cross Multiplication**

$$-24 = 2x$$

**Simplify**

$$\frac{-24}{2} = \frac{2x}{2}$$

**Divide by 2**

$$-12 = x$$

**Answer**

1.  $\frac{5}{a} = \frac{30}{54}$

2.  $\frac{v}{46} = \frac{34}{23}$

3.  $\frac{40}{56} = \frac{k}{7}$

4.  $\frac{6}{n} = \frac{3}{0.51}$

5.  $\frac{7}{(a-4)} = \frac{14}{6}$

6.  $\frac{5}{12} = \frac{(x+1)}{4}$

7. If a box of cupcake mix makes 14 cupcakes, then how many boxes will make 70 cupcakes. Write a proportion and solve.

8. An architect wants to make a scaled drawing of a building. The east wall is measured at 120ft the same wall on the drawing is 4". If the west wall on the drawing is 10" how long is the actual west wall? Write a proportion and solve